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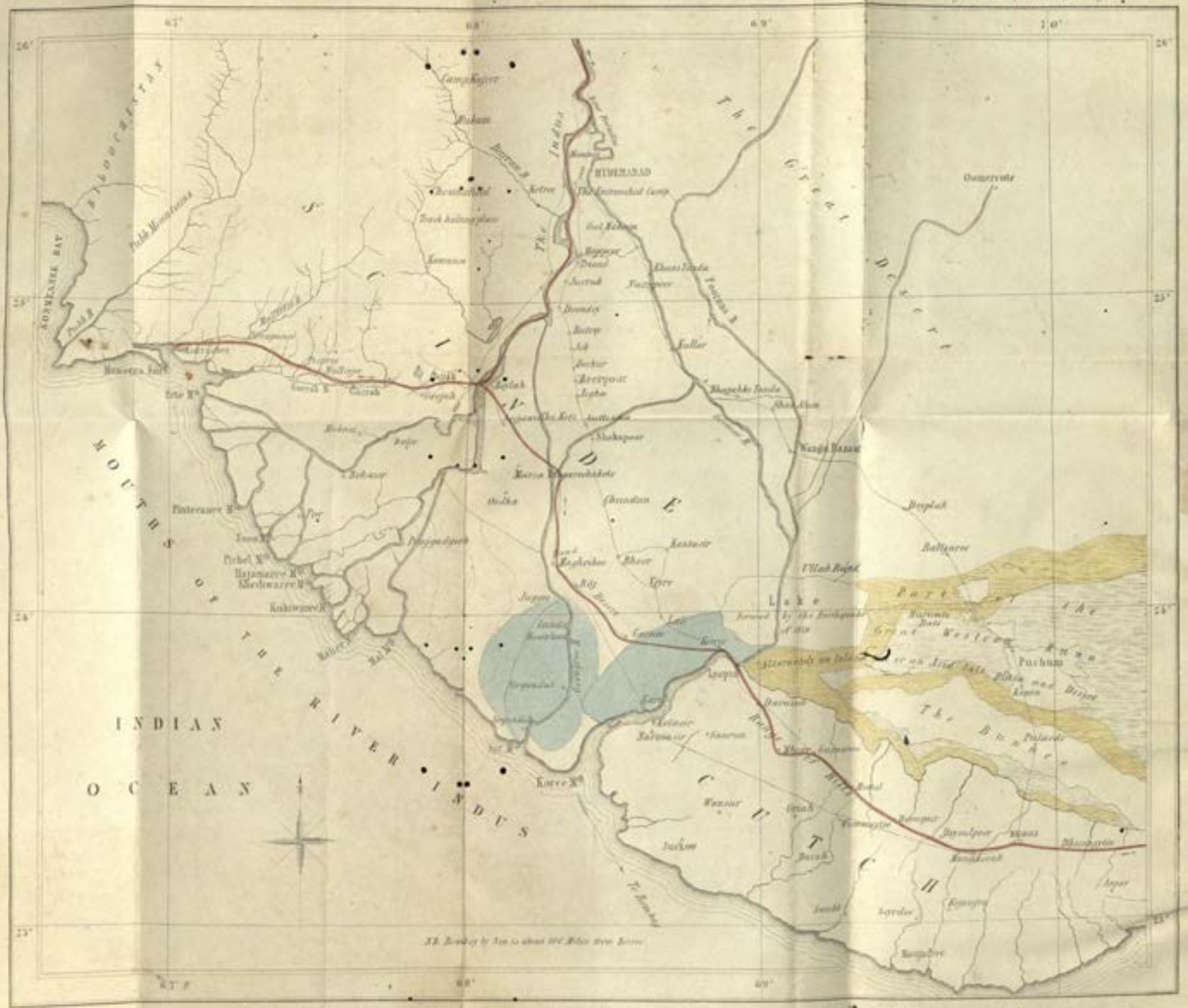
*Sketch to illustrate a Letter by Lieutenant Burke, Bombay Engineers on the Subject of INDIA SALT.*

*Hyderabad, Scinde 1st May 1843.*




*Lieutenant Burke's route is indicated by the red line. The probable area that is covered with a permanent layer of salt is shewn by the blue colour, the area more or less covered with salt on the retreat of the waters and during the hot weather by the yellow space.*

London, Published by James Fraser & Co. Bermondsey, 1843.

# INDIA SALT.

## SCINDE

*VERSUS*

## CHESHIRE, CALCUTTA, AND BOMBAY.

WITH AN ILLUSTRATIVE MAP.

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By JAMES HENRY BURKE, Esq.

LIEUTENANT BOMBAY ENGINEERS.

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LONDON:
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1847.

LONDON:
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# PREFACE.

UNDERSTANDING that a pamphlet has recently been published in London, to attempt to prove the feasability, advisability, &c. of supplying India with Cheshire salt, I have written the following letter and subsequent remarks, to shew that Scinde can supply all India with salt of excellent quality for an unlimited period, and probably at a cheaper rate than can Cheshire.

I have also endeavoured to shew, that Scinde can, perhaps, compete with Calcutta and Bombay in their own markets, and therefore that it is advisable that such measures may be adopted as may tend to develope the resources and increase the revenue of this noble province.

*Hyderabad, Scinde,* 17*th June,* 1847.

# LETTER

FROM

## LIEUTENANT BURKE,

Executive Engineer, Central Scinde Division of Public Works,

TO

## MAJOR PEAT, C.B.

Superintending Engineer in Scinde.

---

HYDERABAD, SCINDE,
*7th March*, 1847.

SIR,

I have the honour to bring to your notice the following facts, connected with the existence of an extensive tract of land on the western bank of the Koree branch of the river Indus, which is covered with a thick layer of (what I believe to be) the purest and most highly crystallized salt, with the view of your bringing the subject to the notice of Major Scott, Superintendent of Canals; or, should you deem it of sufficient importance, under that of his Excellency the Governor of Scinde.

2. Circumstances having required my presence in India, I quitted Kurrachee on the

28th of last May, resolved, if possible, to reach Bombay by land; the communication between Scinde and India having closed for the season. I reached Tatta on the 30th of May, and thence rode, *viâ* Soojawull-ka-Kote and Syud-Sutarun-ka-Kote, to Muggurrubbee. Muggurrubbee I quitted on the 4th of June, and that day halted at the hamlet of Raj, a miserable collection of mud hovels.

3. The country I thence traversed, was then, and is still, utterly unknown to me from the description of others: but it is that to which I beg to draw your particular attention; as, though bare, dreary, desolate, and uninviting in appearance, it is, to the moderately close scientific observer, one of great and exciting interest.

4. Two miles to the eastward of Raj, commences this domain of desolation; in the midst of which is situated, at the distance of twenty-four or twenty-five miles from Raj, one wretched hut, known by the name of Goonee. The desert crossed consists of fine sand, covered with myriads of salt-water shells, as fresh in colour and perfect in contour as if they had been just cast up by a receding tide. This sand is, moreover, so saturated with salt, that the very strong

south-westerly winds, which were blowing when I crossed, had no effect in raising it: indeed, they had no effect on it whatever, except that of slightly furrowing the surface. The only symptoms of vegetation consist of two Mimosas, one of which may be about twenty-five, the other about twelve or fourteen years old; and sundry small spreading bunches, a few inches in height, of capparis, which are half smothered and half protected by the slight drift of the heavy salt-sand which accumulates around them.

5. At Goonee a government peon* is stationed; but the only supplies procurable, consisted of a few bundles of rotten grass for my horses, and not quite a pint of fetid water for myself. That day my horses did not obtain a drop of water: though I believe my servants managed to procure a little for themselves late in the afternoon, from a village some miles distant. There is neither habitation, shelter, fresh water, nor even salt water, obtainable between Raj and Goonee.

* Policeman.

6. The next morning I rode eastward from Goonee some sixteen or seventeen miles, to a solitary house called Kotree, situated on the

western bank of the Koree creek, and distant by water about sixteen miles from Lukput. This house has been built by some charitable government or individual, and therein resides a Brahmin, whose duty it is to supply travellers with fresh water, which is brought from Lukput by boat. The house is raised upon a terrace about three and a half feet high, and thereby secured against damage by spring tides; which hereabouts appear to run inland to a considerable distance, owing to the unvaried and unbroken flatness of the country.

7. About a mile to the eastward of Goonee the layer of salt first appears on the surface; and it uninterruptedly forms the surface until close to the house at Kotree: that is, for a distance of about fifteen miles.

8. For the first few yards it appears as a ridgy layer, with bunches, and is but a few inches in thickness: but the thickness rapidly increases; and the structure is so hard and crystalline, that it required some little time and labour to detach the smallest fragment, with the only available tool I had with me: viz., a strong hunting knife. The hoofs of a horse made no impression on its surface. This was

of a sandy colour, owing to the presence of a very slight film of drift dust or sand, which had been absorbed by the deliquescent quality of the salt. Crystallized knobs or bunches, of the same exterior colour as the general bed, occasionally rose about the surface; and a few of these, having been recently detached, shewed the dazzling and highly crystallized interior structure of the mass: less homogenous and compact, but perhaps clearer and more brilliant than that of Northwich or of the Punjab.

9. I was informed at Tatta of a second route thence to Cutch. It is marked in the accompanying sketch, as that by Kotaseer and Narrainseer. On my return to Tatta from India in December last, I had the good fortune to meet again the Moonshee who had in May last given me the two routes: the one from Tatta to Bhooj *viâ* Lukput, the other from Tatta to Bhooj *viâ* Narrainseer. On meeting him the second time, I minutely questioned him as to the occurrence of this bed of salt on the Narrainseer route; and he, over and over again, assured me of its existence.

10. I was somewhat fatigued on my arrival

at Lukput, where I remained three days, to rest my cattle, my servants, and myself; and I there made many inquiries regarding this bed of salt, and regarding the general structure of the very singular region that borders the province of Cutch to the north and west. I was assured that the salt in question was good; though not used by the inhabitants of Lukput, because the labour of four or five men for a few hours, on their side of the creek, could supply them all for a month or longer: the manufacture of first-rate salt, to any amount, being there a matter of the very greatest simplicity.

11. From a comparison of specimens of the manufactured salt of Lukput and of Gharra,* and the naturally produced salt of the Runn, with that of the bed in question—from the observed situation of this bed being above the highest spring tides, and from its compactness being greater and its thickness far more considerable than that of any of the foregoing salts—I am induced to believe that it has been formed by capillary attraction: that is, that the salt water with which the salt desert is saturated, has, by capillary attraction, been drawn to the

* In Scinde.

surface, and thereon crystallized by the rays of a Scindian sun. I am further induced to believe—from the appearance of the crystallized knobs or cauliflower bosses which rise above the surface of the bed—that the process of absorption of salt-water from the sand, and the process of crystallization by the sun, are still going forward; and also, that, were the old bed removed, the unassisted powers of nature would cause it to be rapidly or gradually renewed.

12. But, without entering upon any point which might induce profitless discussion, I will confine myself to facts, and proceed to state what I know upon the subject.

13. From information derived at Lukput, and from the fact of the occurrence of this bed on the Narrainseer route, I am induced to lay down the extent of this single bed as twenty miles in length, by fifteen in breadth. Its thickness I have heard variously conjectured; never, on an average, above seven, or below four feet. I will take the mean thickness of clean workable salt at three feet only.[1]

[1] Vide Note 1.

14. On these data, this single bed contains not less than 929,280,000 cubic yards, or

25,090,560,000 cubic feet, of, perhaps, as pure bay salt as any in the universe. The specific gravity of salt being 2·130, each cubic foot will weigh about 132½ lbs. avoirdupois; and thus the produce of the whole bed will weigh 332,449,920,000 lbs. avoirdupois, or 1,484,151,430 tons, nearly. This quantity, at an annual allowance of 20 lbs. a head, would supply a population of one hundred millions, for one thousand six hundred and sixty-two years.[2] Need I add anything else to prove the vast importance of a minute investigation into the character and utility of this spontaneous gift of nature?

[2] Vide Note 2.

Expense of quarrying 1½*d.* per ton.

15. I calculate that one man could quarry four tons of this salt per diem. Four annas, or sixpence a day, would be liberal wages for such a man.[3] Experience, moreover, tells me that four such tons could (at first, at least) be carried on donkeys, from the place of excavation to the shipping vessel, for one rupee, or, at the rate of 6*d.* a ton; I will, however, allow 1*s.* a ton for carriage to the place of shipment, and 3*d.* a ton for shipping expenses.

[3] Vide Note 3.

Expense of carriage 1*s.* per ton. Shipping expenses 3*d.* per ton.

16. Thus, I feel pretty confident that, under

competent arrangements, this salt could be shipped in the Koree mouth of the Indus for 1*s.* 4½*d.* a ton: say 1*s.* 6*d.* It is almost needless to remark, that the substitution of bullock-carts for donkeys, and several similar improvements, could not fail to cheapen the process; and that the larger the scale on which the work might be carried on, the greater would be the saving of expense per ton.

17. Allowing the freight to Bombay, or to Panwell,[4] to amount to 3*s.* a ton, and the landing charges at the latter place to be 6*d.* a ton, the total *untaxed* cost of this salt, landed at Panwell, would be 5*s.* per ton.

[4] Vide Note 4.
Freight to Bombay, or to Panwell, 3*s.* a ton.
Landing charges in India 6*d.* a ton.

*Summary.*

| Shipping expenses | *s.* 1 | *d.* 6 |
|---|---|---|
| Freight | 3 | 0 |
| Landing charges | 0 | 6 |
| Total | 5 | 0 |

18. Having had, in the years 1838 and 1839, great experience of the way that salt is manufactured in the salt pans on the south side of Bombay harbour, I can state, that, as far as appearance is concerned, the salt so produced is but a dirty mass when compared with that obtained from the bed under consideration. I shall, moreover, now endeavour to prove that the latter salt can be sold at Panwell itself, cheaper than the dirty salt procured in the pans in the vicinity of Panwell.

19. In passing through this town (Panwell)

the other day, I purposely asked the price at which native Bombay-harbour salt, of an average quality, was selling, and was informed by the custom-house authorities, that the price per Bengal maund was 1 anna and 6 pice ($2\frac{1}{4}d.$), exclusive of a landing charge of 4 pice ($\frac{1}{2}d.$).

20. A Bengal maund weighs 80 lbs. and a fraction: say, in round numbers, 80 lbs.; and its cost, free of duty, at Panwell, is thus 1 anna and 10 pice ($2\frac{3}{4}d.$). In an English ton there are nearly twenty-eight such maunds. The present cost of an English ton of native salt at Panwell, is therefore not quite 51 annas and 4 pice; or 3 rupees, 3 annas, and 4 pice (*6s. 5d.*).

Untaxed cost of salt at Panwell in India, *6s. 5d.* per ton.

21. Thus it would appear that clean salt from the banks of the Koree creek might probably be brought into the Panwell market at *5s.* a ton; whereas the same quantity of the dirty salt at present produced in the vicinity of Panwell, is not sold under *6s. 5d.* The relative qualities of these salts, would, of course, enhance this difference of cost; though this latter, independent of such a consideration, stands in about the ratio of ten to thirteen.

22. I must not, however, disguise from you certain difficulties, which would require to be encountered and overcome before any great supply of salt can be expected from the banks of the Koree creek.

1st. It must be ascertained, beyond question, that the salt is fit for human consumption.

2nd. There is not, as far as I am aware, a drop of fresh water obtainable where the salt bed extends. Water could doubtless be brought (as it is at present) from the Cutch side of the creek, and deposited in reservoirs, for the use of the working men and of the working cattle. This would, however, involve consideration and expense. Probably an aqueduct from the head of a pier would be found the most convenient plan of supplying this necessary of life; and, strange as it may appear, the salt itself might possibly be used as a principal agent in the construction of the body of such a structure: the pipes to be of wood or iron, as might be found advisable. All across the great Rājpoot desert, even at Goonee, reservoirs are made for the retention of water, as a hot weather supply. The idea

is one, therefore, which would coincide with native manners and customs.

3rd. A pier or "hard," as a landing and shipping place, would be required; certainly as a convenience, almost as a necessity. The construction of such a work would, obviously, save labour, time, and money; and it need not be very expensive, as, on the opposite side of the creek, at Lukput, a road composed of salt-sand only, and sustained at the sides by little more than wattles, has existed about twenty years. This road runs from the principal sea-gate of the town, to low water mark; and, though it is every month surrounded by the waters of the creek, it has stood well and firmly, requiring nothing but the most ordinary repair to be put into respectable condition. A concrete "hard," might, therefore, be constructed on the western shores of the creek; the materials for which would have to be supplied from Cutch: this could easily be done, as Lukput stands on a mass of nummulitic limestone, and sandstone abounds in its vicinity.

4th. I crossed the creek between nine and twelve o'clock on the morning of the 6th of June, on board the ordinary ferryboat. There

was not then a greater depth of water than five feet anywhere between Kotree and Lukput: that is, for a distance of six miles. The average depth could not have been greater than four feet.

23. Kotree would not, therefore, be suitable as a place of shipment; as salt shipped there could be received into small boats only, and would require to be reshipped lower down the creek: an operation attended with inconvenience and expense.[5] Vessels of any burden are, indeed, deserting Lukput itself; partly, I was informed, on account of the rise of Kurrachee, partly on account of the decreasing depth of water, and partly on account of the increase of Customs' dues by the native authorities of Cutch.[6] I was also informed that vessels of 400 candies (about 100 tons) were the largest that ever touched at Lukput now. This is also the tonnage of the largest that can make Panwell, and that only at spring tides.

[5] Vide Note 5.

[6] Vide Note 6.

24. It would therefore be necessary to look out for a place of shipment lower down the western bank of the creek than Kotree; and I do not see any reason to anticipate failure in

the research. Though the salt tract extends to the northward, it would be useless to look there. My laden camels and horses forded the creek for a distance of three or four miles on end, only about a mile above where I crossed it in the boat; and I was told at Lukput, that the bed of the creek became still shallower to the northward, and that, generally speaking, there was not above two feet of water in the great lake marked in the maps as "formed by the earthquake of 1819." In the rainy season, indeed, the case is altered: but salt could not be exported from Scinde at that season; when even steamers cease to ply between Kurrachee and Bombay.

25. I am not aware what the present amount of revenue derived from salt by the Bombay government may be: but cannot imagine it to be under 200,000*l.* per annum. I should think it exceeded that sum.

26. Now, should the salt on the western bank of the Koree creek prove fit for human consumption, I cannot at present see why a great and increasing traffic in this article, might not be established between Scinde and India, to the mutual benefit of both countries. Neither

can I see any reason why, with an equality of taxation upon the Scindian and upon the Bombay article, the former would not monopolise the Calcutta and Malabar markets.[7] Indeed, upon the supposition that this salt is fit for human consumption, I cannot see any reason whatever, why a revenue equal to that at present received by the Bombay government, may not accrue to the government of Scinde, from taxation on the export of this article to the Indian peninsula and elsewhere. The former experience I have had, in the salt pans and salt marshes about the southward side of Bombay harbour, encourages, and perhaps entitles me, to give a pretty positive opinion on this point.

[7] Vide Note 7.

27. That experience also authorizes me to assert, that the "hukks," or private claims, recognized and allowed by the Bombay government, in kind or in cash, on the produce of the Bombay-harbour salt-pans—and which, unredeemed, constitute a deduction from the amount of revenue received by that government—could not apply to the tract now brought to your notice; which is a howling desert, where at present neither man, nor, I believe,

Hukks.

bird, or beast, have as yet established themselves.

28. I am not over sanguine of success; but there is, at least, an opening for expectation in this untrodden field. Preliminary investigation to establish the probability of success, could not be very expensive; and I need scarcely add how much that success would increase the fiscal prospects and general capabilities of this rising and important province of the East India Company's dominions.

I have the honour to be, &c.,

(Signed) JAMES H. BURKE,
*Lieutenant- Engineers.*

## FURTHER REMARKS.

GREAT, however, as is the quantity of salt in the bed near Kotree, yet it would appear that there is a still greater supply in another direction; for, on requesting information from a gentleman who has resided some five or six years in the eastern division of the Indus delta, I received for answer that, "The salt you crossed between Rāj and Lukput is, I understand, *nothing* to what there is between Juggee and Sirgundah."

In the accompanying sketch, the situations of these places have been laid down according to the best information I possess.

Moreover, several smaller sources of supply exist on the south-western boundary of the great Rājpoot desert; and are also met with,

I am told, between Bhooj and Hyderabad: on which route, lakes of pellucid waters annually become desiccated in the hot season, and crystallized into almost equally pellucid beds of salt; so remaining until the flooding of the Indus, or of other streams, or the downpour of the Monsoon rains, cause them to revert to their original state of salt-water.

For miles in width, also, along the edge of the Runn, and on the decrease of its waters, the ground is crusted with a dazzling layer of salt: so dazzling, indeed, that travellers cannot cross by day, as the eye cannot withstand the intensity of the glare. As, however, the quality of the Runn salt is considered very inferior to that of the salts already mentioned, and as the Runn is situated further inland than either the Kotree or Sirgundah bed, I shall not take into consideration this enormous annual efflorescence.

Cheshire, Bengal and Scinde salts.

With reference to the recent proceedings of certain parties in England on the subject of the introduction of Cheshire salt into Bengal and other parts of India, I shall now briefly allude to the chance of Scinde salt meeting with a ready and a profitable market at Calcutta, com-

pared both with that of the produce of Cheshire and that of Bengal manufacture.

Cheshire salt can, I understand, be shipped at Liverpool for twelve shillings a ton. Scinde salt can, I feel pretty confident, be shipped at the mouth of the Indus for three or four shillings a ton, all expenses included.

Now, it will be to me a curious and an unexpected result, if Scinde salt should not, *as a general rule*, undersell that of Cheshire in the Calcutta market; when, in addition to a difference in the cost of shipment of eight or nine shillings a ton, it must be borne in mind that the former would require a water carriage of 3,300 miles only, whereas a voyage of some 12,000 miles would have to be encountered by the latter. *Primâ facie*, it would therefore appear that Scinde salt could be imported into Calcutta cheaper than that of Cheshire. There cannot be much doubt as to its introduction at a cheaper rate into Bombay, which is only 500 miles distant.

As regards native and government manufactured salt, having never been at Calcutta, I cannot enter into the minutiæ of the question:

but, from all I can ascertain, I believe that the Bengal government is the sole manufacturer of salt in its own provinces, and that the salt so manufactured is sold for its original cost, and a certain amount of superadded duty.

The following table, which has been extracted from the "*Friend of India*," of the 29th of April, 1847, will show at what rate per hundred maunds this salt has been manufactured and charged for by the Bengal government in the years 1844 and 1847: these prices being exclusive of the amount of duty:—

BENGAL SALTS.

| NAMES OF DEPOTS. | Price in 1844, Company's rupees. | Price in 1847, Company's rupees. |
|---|---|---|
| Hidglee, . . . . . | 75 | 62 |
| Timlook, . . . . . | 85 | 78 |
| 24 Pergunnahs, . . . . | 95 | 97 |
| Chittagong, . . . . . | 87 | 81 |
| Bullooah, . . . . . | 87 | 80 |
| Cuttack, . . . . . | 113 | 100 |
| Balasore, . . . . . | 118 | 87 |
| Khoorda, . . . . . | 119 | 98 |
| Madras, . . . . . | 62 | 56 |
| Average price of salt, Co.'s rs. | | 82⅓ |

Thus it would appear that the average cost price of these salts in 1847, amounted to Company's rupees 82¼ per hundred maunds, or to 2*l.* 4*s.* 8½*d.* per ton.

Allowing shipping expenses at the mouth of the Indus to amount to these four shillings and odd pence per ton, the foregoing table and its deduced results will show, that whenever the charges for freight, insurance, &c., from the mouths of the Indus to Calcutta, shall not exceed forty shillings a ton, that salt could be profitably exported to Calcutta.

I have not here taken the quality of Scinde, as contrasted with that of Bengal salt, into consideration: but as the former is far cleaner, and apparently otherwise superior to Bombay harbour-made salt, and as it is generally understood that Bombay-harbour salt bears a high character at Calcutta, there can be but little doubt that it would command at least as high a price as any of the sea-salts of India. Neither have I taken into consideration the serious item of expense that Bengal salt has to bear before it can reach Calcutta: but which would appear, from the "*Friend of India*" to amount some-

times to as much as fifty (?) per cent. on the original cost of manufacture.

I know nothing whatsoever as to the sum that freight, &c. between the Indus and Calcutta would amount to: but as Bombay harbour salt has been sent to that port, it seems, *à fortiori*, probable, that Scinde salt also would be.

Analysis of Scinde salts.

The salt from the Kotree bed has been analysed by a professional gentleman, and the following is the highly satisfactory result:—

"I received the specimen of salt, and have this morning found leisure to analyse it. Tell Mr. M'Leod that it is just the same as the salt obtained by evaporating sea-water—the salt that is called *bay-salt*. It is not so pure as *rock-salt*, because it contains a little *sulphate of soda*—very little, and of no consequence—and also some *muriate of magnesia*; which latter renders it a little bitter: but it can readily be removed by washing the salt in fresh water. As it is, I have no doubt it would find a ready market; for it is very much cleaner than what is made in the government salt pans about Bombay."

This analysis was handed to me nearly three months after I made my report. I do not know by whom it was made, but feel much satisfaction in finding that my description of the nature and the value of the salt has been so clearly confirmed.

I insert the above analysis in order to remove any doubt whatsoever as to the wholesome and marketable nature of this salt. I may also mention that it has been used in Scinde for months together, and has been preferred to any other. Moreover, it is my impression that chloride of sodium has never been obtained pure by evaporating salt-water, or from beds of rock-salt.

The following analysis of several descriptions of bay-salts manufactured in France and England, and which were formerly preferred in England to Cheshire brine or rock-salts, will partly prove this assertion. The analysis of Cheshire salt is also shown.

Vide *Edinburgh Encyclopædia.*

| Different kinds of Salt analysed. | One Hundred Parts by Weight consist of | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Insoluble Matter. | Muriate of Lime. | Muriate of Magnesia. | Total earthy Muriates. | Sulphate of Lime. | Sulphate of Magnesia. | Total Sulphates. | Total Impurities. | Total Pure Muriate of Soda. |
| **Foreign Salt, From Bay Water.** | | | | | | | | | |
| St. Ube's . . . . | 9 | a trace | 3 | 3 | 23½ | 4½ | 28 | 40 | 960 |
| St. Martin's . . . | 12 | .. | 3½ | 3½ | 19 | 6 | 25 | 40½ | 959½ |
| Oleron . . . . . | 10 | .. | 2 | 2 | 19¾ | 4¼ | 23¾ | 35¾ | 964¼ |
| **British Salt, From Sea Water.** | | | | | | | | | |
| Scotch—Common . | 4 | .. | 28 &c. + | 28 &c. + | 15 | 17½ | 32½ | 64½ | 935½ |
| Scotch—Sundays . . | 1 | .. | 11½ | 11½ | 12 | 4½ | 16½ | 29 | 971 |
| Lymington—Common | 2 | .. | 11 &c. + | 11½ &c. + | 15 | 35 | 50 | 63 | 937 |
| Lymingtom—Cat . . | 1 | .. | 5 | 5 | 5 | 5 | 6 | 12 | 988 |
| **Cheshire Salt.** | | | | | | | | | |
| Crushed Rock . . . | 10 | 1/16 | 3/16 | 3¼ | 6½ | ¼ | 6½ | 16¾ | 983¼ |
| Fishery . . . . . | 1 | ¼ | ¾ | 1 | 11¼ | .. | 11¼ | 13¼ | 986¾ |
| Common . . . . | 1 | ¼ | ¾ | 1 | 14⅓ | .. | 14½ | 16½ | 983½ |
| Stoved . . . . . | 1 | ¼ | ¾ | 1 | 15½ | .. | 15½ | 17½ | 982½ |

Several important points have now, I submit, been proved, or can with truth be asserted, with regard to the salt plains in Scinde.

1st. An unlimited quantity of salt is procurable.

2nd. The quality is excellent, and the salt is very clean in grain.

3rd. The formations or deposits are close to the sea.

4th. The beds can be easily, cheaply, and continually worked, for six or eight months in the year.

5th. There is a wide market for the produce.

And 6th, it does not appear improbable that a large revenue may accrue to Scinde, from government opening up and rendering easily accessible this exhaustless source of wealth.

What project can appear more promising on paper?

My books are a thousand miles away; but, as far as I can remember, the government of India derives a revenue from salt of not less than 1,500,000*l.* a year.

I must therefore again assert the probability of Scinde deriving a large revenue from taxation on the export, or otherwise, of one of the

natural products of the country. As an item of secondary importance in the revenues of the province, as a source of benefit to India and to Scinde, and as a source of supply, nearer and more natural—and I would fain add, cheaper—than Cheshire; may I not be permitted to hope that the question will receive the degree of attention it would appear to merit?

I call it an item of secondary importance in the revenues of Scinde, because taxation on the agriculture of the unsurpassed soil of the valley of the Indus, must—or should—always constitute the primary: a soil, the depth of which has not been ascertained, and the natural richness of which is augmented or renewed by the annual flood of plenty, poured down from the summits of the Himalayas—a flood which will only cease to flow when the mountains whence it is derived shall exist no longer, or the sun forget to rise behind their peerless summits.

# NOTES.

(1) I put down the depth at three feet only, but have little doubt that it is far greater.

(2) Probably not 60,000,000 of the 134,000,000 of the inhabitants of the Indian Peninsula draw their supplies of salt from the ocean. The produce of salt lakes and salt earth in the interior of the country, and of the Kalabāgh and other salt beds of the Punjāb, meet the produce of the Bombay-harbour pans 360 miles from Bombay itself, in a north-easterly direction.

(3) The ordinary rate of wages to an able labourer in this part of India, is from 3d. to 3¾d. a-day. I have employed thousands in places very far apart, at these rates.

(4) Panwell is the ordinary landing place on the continent of India for goods going inland from Bombay. It is situated about six miles up a tideway river, the bed of which is quite dry at low water, and is accessible, therefore, for a few hours only out of the twenty-four: though it passes merchandize to the amount of some millions sterling annually; all of which is shipped or landed, at what is *not* the most convenient or accessible point on the continental margin of the ample harbour of Bombay.

(5) I do not think that boats of more than thirty or forty tons burden could ship salt at Kotree.

(6) Cutch is ruled by a native Government.

(7) That is, as far as any extra-Bengal supply is concerned.

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